

REMARKS

Claims 1-17, 19-28, and 45-48 are pending in the application. Claims 1-17, 19-28, and 45-48 have been rejected and are currently under consideration. With this paper, claims 1-2, 5-6, 8, 13, 17, 22, 28, and 45 have been amended and new claims 49-52 have been added. Reconsideration and allowance are respectfully requested.

Claim Objections

The Office has objected to claim 18. Examiner states, in part:

Claim 18 is objected to because of the following informalities:
Claim 22 depends upon the canceled claim 18.

Claim 22 has been amended to depend from claim 17. Claim 18 remains canceled. Applicants respectfully request that the Examiner withdraw the objections to the claims.

Claim Rejections Under 35 U.S.C. § 102

The Office has rejected claims 1-12, 15-16, and 45-48 as being unpatentable over O'Dell et al. (U.S. patent no. 6,324,298). The Examiner states, in part:

As per claims 1 and 45, O'Dell discloses an inspection system comprising:

....

an image model processor (column 4, lines 27-30) determining a presence of an object within a region of interest (fig 1, camera 20, column 7, lines 8-10);

a structural model processor (column 7, lines 3-22) determining structural features of the object (fig 1, parameter input device 22, fig 2, step A2); and

a geometric model processor (geometric model is defined as wafer having rough location and rotation data provided by the previous two model and it determines a precise location of the part on object by inspecting, column 4, lines 50-59, column 7, lines 3-22) determining a precise location of the object (fig 1, wafer alignment device 16, fig 2, step A2).

Claim 1 has been amended to recite, in part:

an image model processor for applying an image model to detect image properties of an object;

a structural model processor for applying a structural model to determine structural features of the object; and

a geometric model processor for applying a geometric model to detect geometric properties of the object.

(Emphasis added.)

The O'Dell reference cited by the Examiner fails to teach or suggest the claimed image, structural, and geometric model processors which apply three separate models, an image model, a structural model, and a geometric model. The portions of O'Dell identified by the Examiner as describing the claimed features do not teach or disclose the application of three separate models. In particular, column 7, lines 3-22, do not describe a structural model processor for applying a structural model to determine structural features of the object. Moreover, the Examiner cites to the same excerpt (column 7, lines 3-22) as support for the Examiner's contention that a geometric model processor is also described. Applicants are unable to discern from the cited excerpts where O'Dell describes the application of three separate models.

Accordingly, the Examiner's rejection of claim 1 under § 102 is unsupported by the cited reference. Therefore, Applicants respectfully request withdrawal of the rejection of claim 1 and claims 2-12 and 15-16, which depend from claim 1.

Claim 45 has been amended to recite, in part:

(b) an image model processor adapted to cooperate with said image processing system, said image model processor applying an image model to determine image properties of an object;

(c) a structural model processor adapted to cooperate with said image processing system, said structural model processor applying a structural model to determine structural features of the object;

(d) a geometric model processor adapted to cooperate with said image processing system, said geometric model processor applying a geometric model to determine geometric properties of the object

(emphasis added.)

The O'Dell reference cited by the Examiner fails to teach or suggest the claimed image, structural, and geometric model processors applying image, structural, and geometric models. Accordingly, the Examiner's rejection of claim 45 under § 102 is unsupported by the cited reference. Therefore, Applicants respectfully request withdrawal of the rejection of claim 45 and claims 46-48, which depend from claim 46.

Claim Rejections Under 35 USC 103(a)

The Office has rejected claims 17 and 19-27 under 35 U.S.C. § 103(a) as being unpatentable over O'Dell in view of Reinholt Geelink et al., "Unified Feature Definition for Feature Based Design and Feature Based Manufacturing."

The Examiner bears the initial burden of factually supporting any *prima facie* conclusions of obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. MPEP §2142.

In support of the rejection, the Examiner states, in part:

Reinholt G. et al. discloses "unified feature definition for feature based design and feature based manufacturing". The system comprises of:

(c) applying a third model to the region of interest around the object (fig 1, section 1.1). Therefore, it would have been obvious to have modified O'Dell to include a third model to the region of interest around the object. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified O'Dell by the teaching of Reinholt in order to provide a feature based system, allowing of both components and assemblies (as suggested by Reinholt at section 1.2).

Applicants traverse the Examiner's rejection and respectfully submit that the Examiner is engaging in impermissible hindsight reconstruction using the Applicants' claims

as a guide. Reinholt does not relate to a method for inspecting an object, as recited in claim 17. Instead, Reinholt relates to feature recognition for computer aided design and computer aided process planning. No motivation exists for combining the automated wafer defect inspection system of O'Dell with the computer aided design and process planning system of Reinholt. Page 1 of Reinholt states, in part:

This paper elaborates on interactive feature definition, aiming at facilitating the definition of features by non-programming experts. The interactive feature definition functionality is implemented in a re-design support system called FROOM. It supports feature based design. Feature definition is also used in a Computer Aided Process Planning system, called PART, for the definition of features to be recognized.

. . . .

Most new generation CAD and CAPP systems are feature based. The CAD systems should support design feature class definition in order to allow end-users to model geometry by instantiating predefined design features. CAPP systems, if they cannot handle feature based product models as an input, need feature definition functionality in order to support the creation of templates for recognition of manufacturing feature instances.

The showing of a suggestion, teaching, or motivation to combine the prior art references is an "essential evidentiary component of an obviousness holding." C.R. Bard, Inc. v. M3 Sys. Inc., 157 F.3d 1340, 1352 (Fed. Cir. 1998). This showing must be clear and particular, and broad conclusory statements about the teaching of multiple references, standing alone, are not "evidence." In re Dembiczak, 175 F.3d 994, at 1000 (Fed. Cir. 1999).

The initial burden is on the Examiner to establish not only that there is some suggestion of the desirability of doing what the inventor has done, but also that the combination itself is suggested, and further that the skilled artisan would have a reasonable expectation of success that the combination would result in the claimed invention. The Examiner "cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." In re Fine, 837 F.2d 1071, 1075, 5 USPQ.2d 1780, 1783 (Fed. Cir. 1988).

The Examiner has not "cited" any evidence of a motivation to combine the references – other than the Examiner's own conclusory statements applied in hindsight. General

conclusions concerning what is "basic knowledge" or "common sense" to one of ordinary skill in the art without specific factual findings and some concrete evidence in the record to support these findings will not support an obviousness rejection. See In re Thrift, 298 F.3d 1357, at 1364, 63 USPQ2d 2002, 2006 (Fed. Cir. 2002), In re Lee, 277 F.3d 1338, 1345, 61 USPQ2d 1430, 1434-35 (Fed. Cir. 2002).

"Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight." Dembiczak, 175 F.3d at 999, 50 USPQ2d at 1617.

As described above, there is no teaching or technological motivation provided in either reference to form the combination proposed by the Examiner. For at least these reasons, the O'Dell reference in combination with the Reinholt reference fail to establish a *prima facie* case of obviousness of claim 17 and its dependent claims 19-27. Applicants respectfully request withdrawal of the Examiner's rejection and allowance of the pending claims.

Allowable Subject Matter

The Examiner has indicated that claims 13, 14, and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim.

Applicants thank the Examiner for this indication, but respectfully submit that in light of the amendments and remarks above, all pending claims are presently allowable.

New Claims

With this amendment, new claims 49-52 have been added. Claims 49-50 depend from claim 1 and claims 51-52 depend from claim 45. For at least the reasons given above with respect to claims 1 and 45, Applicants respectfully request allowance of new claims 49-52.

CONCLUSION

With respect to all amendments, Applicants have not dedicated or abandoned any unclaimed subject matter and moreover has not acquiesced to any rejections and/or objections made by the Examiner. Applicants reserve the right to pursue prosecution of any presently excluded claim embodiment in future continuation and/or divisional applications.

In view of the above, Applicants respectfully requests that the rejections be withdrawn and the claims allowed. Should any other action be contemplated by the Examiner, it is respectfully requested that he contact the undersigned at (408) 392-9250 to discuss the application.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or fees due in connection with this document to Deposit Account No. 50-2257 referencing docket no. M-15704 US.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on February 16, 2005.

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Attorney for Applicant(s)

Date of Signature

Respectfully submitted,

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